TABLE OF CONTENTS

ARTICLE 2.0000 AIR POLLUTION CONTROL REGULATIONS AND PROCEDURES

SECTION 2.1100 CONTROL OF TOXIC AIR POLLUTANTS

2.1101 PURPOSE

This Section sets forth the regulations for the control of toxic air pollutants to protect human health.

History Note: *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(1),(3),(4),(5); 143B-282;*
Eff. May, 1990.

2.1102 APPLICABILITY

(a) The toxic air pollutant Regulations in this Section apply to all facilities that emit a toxic air pollutant that are required to have permit under MCAPCO Section 1.5700 - "Toxic Air Pollutant Procedures".

(b) When a Regulation in MCAPCO Sections 2.0500 - "Emission Control Standards", 2.0900 - "Volatile Organic Compounds", or 2.1200 - "Control of Emissions from Incinerators" and this Section regulate the same pollutant, the more restrictive Regulation shall apply.

History Note: *Authority G.S.143-215.3(a)(1); 143-215.107(a)(1),(3),(4),(5); 143B-282; S. L. 1989, C. 168, S. 45;*
Eff. May 1, 1990.
Amended Eff. July 1, 1998, December 1, 1991.

2.1103 DEFINITIONS

For the purpose of this Section, the following definitions apply:

(1) **"Asbestos"** means asbestos fibers as defined in 40 CFR 61.141.

(2) **"Bioavailable chromate pigments"** means the group of chromium (VI) compounds consisting of calcium chromate (CAS No.13765-19-0), calcium dichromate (CAS No. 14307-33-6), strontium chromate (CAS No. 7789-06-2), strontium dichromate (CAS No. 7789-06-2), zinc chromate (CAS No. 13530-65-9), and zinc dichromate (CAS No. 7789-12-0).

(3) **"CAS Number"** means the Chemical Abstract Service registry number identifying a particular substance.

(4) **"Chromium (VI) equivalent"** means the molecular weight ratio of the chromium (VI) portion of a compound to the total molecular weight of the compound multiplied by the associated compound emission rate or concentration at the facility.

(5) **"Cresol"** means o-cresol, p-cresol, m-cresol or any combination of these compounds.

(6) **"GACT"** means any generally available control technology emission standard applied to an area source or facility pursuant to Section 112 of the federal Clean Air Act.

(7) **"Hexane isomers except n-hexane"** means 2-methyl pentane, 3-methyl pentane, 2,2-dimethyl butane, 2,3-dimethyl butane, or any combination of these compounds.

(8) **"MACT"** means any maximum achievable control technology emission standard applied to a source or facility pursuant to Section 112 of the federal Clean Air Act.

(9) **"Nickel, soluble compounds"** means the soluble nickel salts of chloride ($NiCl_2$, CAS No. 7718-54-9), sulfate ($NiSO_4$, CAS No. 7786-81-4), and nitrate ($Ni(NO_3)_2$, CAS No. 13138-45-9).

(10) **"Non-specific chromium (VI) compounds"** means the group of compounds consisting of any chromium (VI) compounds not specified in this Section as a bioavailable chromate pigment or a soluble chromate compound.

(11) **"Polychlorinated biphenyls"** means any chlorinated biphenyl compound or mixture of chlorinated biphenyl compounds.

(12) **"Soluble chromate compounds"** means the group of chromium (VI) compounds consisting of ammonium chromate (CAS No. 7788-98-9), ammonium dichromate (CAS No. 7789-09-5), chromic acid (CAS No. 7738-94-5), potassium chromate (CAS No. 7789-00-6), potassium dichromate (CAS No. 7778-50-9), sodium chromate (CAS No. 7775-11-3), and sodium dichromate (CAS No. 10588-01-9).

(13) **"Toxic air pollutant"** means any of those carcinogens, chronic toxicants, acute systemic toxicants, or acute irritants listed in MCAPCO Regulation 2.1104 - "Toxic Air Pollutant Guidelines".

History Note: *Authority G.S. 143-213; 143-215.3(a)(1); 143B-282; S. L. 1989, C. 168, S. 45; Eff. May 1, 1990;*
Amended Eff. April 1, 2001; July 1, 1998.

2.1104 TOXIC AIR POLLUTANT GUIDELINES

A facility shall not emit any of the following toxic air pollutants in such quantities that may cause or contribute beyond the premises (adjacent property boundary) to any significant ambient air concentration that may adversely affect human health. In determining these significant ambient air concentrations, the Department shall be guided by the following list of acceptable ambient levels in milligrams per cubic meter *(micrograms per cubic meter)* at 77º F (25º C) and 29.92 inches (760 mm) of mercury pressure (except for asbestos):

Pollutant (CAS Number)	**Annual (Carcinogens)**	**24-hour (Chronic Toxicants)**	**1-hour (Acute Systemic Toxicants)**	**1-hour (Acute Irritants)**
acetaldehyde (75-07-0)				27 (*27,000*)
acetic acid (64-19-7)				3.7 (*3,700*)
acrolein (107-02-8)				0.08 (*80*)
acrylonitrile (107-13-1)		0.03 *(3)*	1 *(1000)*	
ammonia (7664-41-7)				2.7 (*2,700*)
aniline (62-53-3)			1 (*1,000*)	
arsenic and inorganic arsenic compounds	2.1×10^{-6} (2.1×10^{-3})			
asbestos (1332-21-4)	2.8×10^{-6} fibers/ml			
aziridine (151-56-4)		0.006 (*6*)		
benzene (71-43-2)	1.2×10^{-4} (*0.12*)			
benzidine and salts (92-87-5)	1.5×10^{-8} (1.5×10^{-5})			
benzo(a)pyrene (50-32-8)	3.3×10^{-5} (*0.033*)			

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
benzyl chloride (100-44-7)			0.5 (*500*)	
beryllium (7440-41-7)	4.1×10^{-6} (*0.0041*)			
beryllium chloride (7787-47-5)	4.1×10^{-6} (*0.0041*)			
beryllium fluoride (7787-49-7)	4.1×10^{-6} (*0.0041*)			
beryllium nitrate (13597-99-4)	4.1×10^{-6} (*0.0041*)			
bioavailable chromate pigments, as chromium (VI) equivalent	8.3×10^{-8} *(8.3×10^{-5})*			
bis-chloromethyl ether (542-88-1)	3.7×10^{-7} *($3.7 X 10^{-4}$)*			
bromine (7726-95-6)				0.2 (*200*)
1,3-butadiene (106-99-0)	4.4×10^{-4} (*0.44*)			
cadmium (7440-43-9)	5.5×10^{-6} (*0.0055*)			
cadmium acetate (543-90-8)	5.5×10^{-6} (*0.0055*)			
cadmium bromide (7789-42-6)	5.5×10^{-6} (*0.0055*)			
carbon disulfide (75-15-0)		0.186 (*186*)		
carbon tetrachloride (56-23-5)	6.7×10^{-3} (*6.7*)			
chlorine (7782-50-5)		0.0375 (*37.5*)		0.9 (*900*)

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
chlorobenzene (108-90-7)		2.2 (*2,200*)		
chloroform (67-66-3)	4.3×10^{-3} (*4.3*)			
chloroprene (126-99-8)		0.44 (*440*)	3.5 (*3,500*)	
cresol (1319-77-3)			2.2 (*2,200*)	
p-dichlorobenzene (106-46-7)				66 (*66,000*)
dichlorodifluoromethane (75-71-8)		248 (*248,000*)		
dichlorofluoromethane (75-43-4)		0.5 (*500*)		
di(2-ethylhexyl)phthalate (117-81-7)		0.03 (*30*)		
dimethyl sulfate (77-78-1)		0.003 (*3*)		
1,4-dioxane (123-91-1)		0.56 (*560*)		
epichlorohydrin (106-89-8)	0.083 (*83*)			
ethyl acetate (141-78-6)			140 (*140,000*)	
ethylenediamine (107-15-3)		0.3 (*300*)	2.5 (*2,500*)	
ethylene dibromide (106-93-4)	4.0×10^{-4} (*0.4*)			
ethylene dichloride (107-06-2)	3.8×10^{-3} (*3.8*)			

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
ethylene glycol monoethylether (110-80-5)		0.12 (*120*)	1.9 (*1,900*)	
ethylene oxide (75-21-8)	2.7×10^{-5} (*0.027*)			
ethyl mercaptan (75-08-1)			0.1 (*100*)	
fluorides		0.016 (*16*)	0.25 (*250*)	
formaldehyde (50-00-0)				0.15 (*150*)
hexachlorocyclopentadiene (77-47-4)		0.0006 (*0.6*)	0.01 (*10*)	
hexachlorodibenzo-p-dioxin (57653-85-7)	7.6×10^{-8} (*$7.6 X 10^{-5}$*)			
n-hexane (110-54-3)		1.1 (*1,100*)		
hexane isomers except n-hexane				360 (*360,000*)
hydrazine (302-01-2)		0.0006 (*0.6*)		
hydrogen chloride (7647-01-0)				0.7 (*700*)
hydrogen cyanide (74-90-8)		0.14 (*140*)	1.1 (*1,100*)	
hydrogen fluoride (7664-39-3)		0.03 (*30*)		0.25 (*250*)
hydrogen sulfide (7783-06-4)		.12 *(120)*		
maleic anhydride (108-31-6)		0.012 (*12*)	0.1 (*100*)	

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
manganese and compounds		0.031 (*31*)		
manganese cyclopentadienyl tricarbonyl (12079-65-1)		0.0006 (*0.6*)		
manganese tetroxide (1317-35-7)		0.0062 (*6.2*)		
mercury, alkyl		0.00006 (*0.06*)		
mercury, aryl and inorganic compounds		0.0006 (*0.6*)		
mercury, vapor (7439-97-6)		0.0006 (*0.6*)		
methyl chloroform (71-55-6)		12 (*12,000*)		245 (*245,000*)
methylene chloride (75-09-2)	0.024 (*24*)		1.7 (*1,700*)	
methyl ethyl ketone (78-93-3)		3.7 (*3,700*)		88.5 (*88,500*)
methyl isobutyl ketone (108-10-1)		2.56 (*2,560*)		30 (*30,000*)
methyl mercaptan (74-93-1)			0.05 (*50*)	
nickel carbonyl (13463-39-3)		0.0006 (*0.6*)		
nickel metal (7440-02-0)		0.006 (*6*)		
nickel, soluble compounds, as nickel		0.0006 (*0.6*)		
nickel subsulfide (12035-72-2)	2.1×10^{-6} (*0.0021*)			

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
nitric acid (7697-37-2)				1 (*1,000*)
nitrobenzene (98-95-3)		0.06 (*60*)	0.5 (*500*)	
N-nitrosodimethylamine (62-75-9)	5.0×10^{-5} (*0.05*)			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	8.3×10^{-8} *(8.3×10^{-5})*			
pentachlorophenol (87-86-5)		0.003 (*3*)	0.025 (*25*)	
perchloroethylene (127-18-4)	0.19 (*190*)			
phenol (108-95-2)			0.95 (*950*)	
phosgene (75-44-5)		0.0025 (*2.5*)		
phosphine (7803-51-2)				0.13 (*130*)
polychlorinated biphenyls (1336-36-3)	8.3×10^{-5} (*0.083*)			
soluble chromate compounds, as chromium (VI) equivalent		6.2×10^{-4} *(0.62)*		
styrene (100-42-5)			10.6 (*10,600*)	
sulfuric acid (7664-93-9)		0.012 (*12*)	0.1 (*100*)	
tetrachlorodibenzo-p-dioxin (1746-01-6)	3.0×10^{-9} (3.0×10^{-6})			
1,1,1,2-tetrachloro-2,2,- difluoroethane		52 (*52,000*)		

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
1,1,2,2-tetrachloro-1,2-difluoroethane		52 (*52,000*)		
1,1,2,2-tetrachloroethane (79-34-5)	6.3×10^{-3} (*6.3*)			
toluene (108-88-3)		4.7 (*4,700*)		56 (*56,000*)
toluene diisocyanate, 2,4- (584-84-9), toluene diisocyanate, 2,6- (91-08-7), and isomers		0.0002 (*0.2*)		
trichloroethylene (79-01-6)	0.059 (*59*)			
trichlorofluoromethane (75-69-4)			560 (*560,000*)	
1,1,2-trichloro-1,2,2- trifluoroethane (76-13-1)				950 (*950,000*)
vinyl chloride (75-01-4)	3.8×10^{-4} (*0.38*)			
vinylidene chloride (75-35-4)		0.12 (*120*)		
xylene (1330-20-7)		2.7 (*2,700*)		65 (*65,000*)

State History Note:
Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3),(4),(5); 143B-282;
Eff. May 1, 1990;
Amended Eff. July 7, 2014; May 1, 2014; March 1, 2010; June 1, 2008; April 1, 2005, April 1, 2001, July 1, 1998, September 1, 1992; March 1, 1992.

MCAQ History Note:
Eff. October 7, 2014; June 17, 2014

2.1105 FACILITY REPORTING, RECORDKEEPING

The Director may require, according to MCAPCO Section 2.0600 - "Monitoring: Recordkeeping: Reporting", the owner or operator of a source subject to this Section to monitor emissions of toxic air pollutants, to maintain records of these emissions, and to report these emissions. The owner or operator of any toxic air pollutant emission source subject to the requirements of this Section shall comply with the monitoring, recordkeeping, and reporting requirements in MCAPCO Section 2.0600 - "Monitoring: Recordkeeping: Reporting".

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4),(5); 143B-282; Eff. May 1, 1990; Amended Eff. April 1, 1999; October 1, 1991.*

2.1106 DETERMINATION OF AMBIENT AIR CONCENTRATION

(a) Modeling shall not be used for enforcement. Modeling shall be used to determine process operational and air pollution control parameters and emission rates for toxic air pollutants to place in the air quality permit for that facility that will prevent any of the acceptable ambient levels in MCAPCO Regulation 2.1104 - "Toxic Air Pollutant Guidelines" from being exceeded, with such exceptions as may be allowed under MCAPCO Section 1.5700 - "Toxic Air Pollutant Procedures". Enforcing these permit stipulations and conditions shall be the mechanism used to ensure that the requirements of MCAPCO Regulation 2.1104 - "Toxic Air Pollutant Guidelines", with such exceptions as may be allowed by MCAPCO Section 1.5700 - "Toxic Air Pollutant Procedures" are met.

(b) The owner or operator of the facility may request the Department to perform a modeling analysis of the facility or provide the analysis himself. If the owner or operator of the facility requests the Department to perform the modeling analysis, he shall provide emissions rates, stack parameters, and other information that the Department needs to do the modeling. The data that the owner or operator of the facility provides the Department to use in the model or in deriving the data used in the model shall be the process, operational and air pollution control equipment parameters and emission rates that will be contained in the facility's permit. If the Department's initial review of the modeling request indicates extensive or inappropriate use of Department resources or if the Department's modeling analysis fails to show compliance with the acceptable ambient levels in MCAPCO Regulation 2.1104 - "Toxic Air Pollutant Guidelines" , the modeling demonstration becomes the responsibility of the owner or operator of the facility.

(c) When the owner or operator of the facility is responsible for providing the modeling demonstration and the data used in the modeling, the owner or operator of the facility shall use in the model or in deriving data used in the model the process operational and air pollution control equipment parameters and emission rates that will be contained in his permit. Sources that are not required to be included in the model will not be included in the permit to emit toxic air pollutants.

(d) For the following pollutants, modeled emission rates shall be based on the highest emissions occurring in any single 15 minute period. The resultant modeled 1-hour concentrations shall then

be compared to the applicable 1-hour acceptable ambient levels to determine compliance. These pollutants are:

(1) acetaldehyde (75-07-0)
(2) acetic acid (64-19-7)
(3) acrolein (107-02-8)
(4) ammonia (7664-41-7)
(5) bromine (7726-95-6)
(6) chlorine (7782-50-5)
(7) formaldehyde (50-00-0)
(8) hydrogen chloride (7647-01-0)
(9) hydrogen fluoride (7664-39-3)
(10) nitric acid (7697-37-2)

(e) The owner or operator of the facility and the Department may use any model allowed by 40 CFR 51.166(l) provided that the model is appropriate for the facility being modeled. The owner or operator or the Department may use a model other than one allowed by 40 CFR 51.166(l) provided that the Director determines that the model is equivalent to the model allowed by 40 CFR 51.166(l). Regardless of model used, the owner or operator and the Department shall model for cavity effects and shall comply with the modeling requirements for stack height set out in MCAPCO Regulation 2.0533 - "Stack Height".

(f) Ambient air concentrations are to be evaluated for annual periods over a calendar year, for 24-hour periods from midnight to midnight, and for one-hour periods beginning on the hour.

(g) The owner or operator of the facility shall identify each toxic air pollutant emitted and its corresponding emission rate using mass balancing analysis, source testing, or other methods that the Director may approve as providing an equivalently accurate estimate of the emission rate.

(h) The owner or operator of the facility shall submit a modeling plan to the Director and shall have received approval of that plan from the Director before submitting a modeling demonstration to the Director. The modeling plan shall include:

(1) a diagram of the plant site, including locations of all stacks and associated buildings;
(2) on-site building dimensions;
(3) a diagram showing property boundaries, including a scale, key and north indicator;
(4) the location of the site on a United States Geological Survey (USGS) map;
(5) discussion of good engineering stack height and building wake effects for each stack;
(6) discussion of cavity calculations, impact on rolling and complex terrain, building wake effects, and urban/rural considerations;
(7) discussion of reasons for model selection;
(8) discussion of meteorological data to be used;
(9) discussion of sources emitting the pollutant that are not to be included in the model with an explanation of why they are being excluded (i.e. why the source will not affect the modeling analysis);

and
(10) any other pertinent information.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3), (5); 143B-282; S. L. 1989, C. 168, S. 45; Eff. May 1, 1990; Amended Eff. July 1, 1998.*

2.1107 MULTIPLE FACILITIES

(a) If an acceptable ambient level in MCAPCO Regulation 2.1104 - "Toxic Air Pollutant Guidelines" is exceeded because of emissions of two or more facilities and if public exposure is such that the Department has evidence that human health may be adversely affected, then the Department shall require the subject facilities to apply additional controls or to otherwise reduce emissions. The type of evidence that the Department shall consider shall include one or more of the following:

(1) emissions inventory,
(2) ambient monitoring,
(3) modeling,
or
(4) epidemiological study.

(b) The allocation of the additional reductions shall be based on the relative contributions to the pollutant concentrations unless the owners or operators agree otherwise.

(c) The owner or operator of a facility shall not be required to conduct the multi-facility ambient impact analysis described in Paragraph (a) of this Regulation. This type of analysis shall be done by the Department. In performing its analysis, the Department shall:

(1) develop a modeling plan that includes the elements set out in Paragraph (f) of MCAPCO Regulation 2.1106 - "Determination of Ambient Air Concentrations";
(2) use for the source modeling parameters, the modeling parameters used by the owner or operator of the source in his modeling demonstration, or if a modeling demonstration has not been done or if a needed parameter has not been used in the modeling demonstration, parameters contained in, or derived from data contained in, the source's permit;
(3) use a model allowed by Paragraph (c) of MCAPCO Regulation 2.1106 - "Determination of Ambient Air Concentrations";
(4) model for cavity effects and comply with the modeling requirements for stack height set out in MCAPCO Regulation 2.0533 - "Stack Height";
(5) use the time periods required by Paragraph (d) of MCAPCO Regulation 2.1106 - "Determination of Ambient Air Concentrations"; and
(6) only consider impacts of a facility's emissions beyond the premises of that facility.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3), (5);143B-282;*
Eff. May 1, 1990;
Amended Eff. July 1, 1998.

2.1108 MULTIPLE POLLUTANTS

If the Department has evidence that two or more toxic air pollutants being emitted from a facility or combination of facilities act in the same way to affect human health so that their effects may be additive or enhanced and that public exposure is such that human health may be adversely affected, then the Department will consider developing acceptable ambient levels for the combination of toxic air pollutants or other appropriate control measures.

History Note: *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3),(5); 143B-282; Eff. May 1, 1990.*

2.1109 112(j) CASE-BY-CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

(a) Applicability. This Regulation applies only to sources of hazardous air pollutants required to have a permit under MCAPCO Section 1.5500 - "Title V Procedures" and as described in 40 CFR 63.50. This Regulation does not apply to research or laboratory activities as defined in Paragraph (b) of this Regulation.

(b) Definitions. For the purposes of this Regulation, the definitions in 40 CFR 63.2, 63.51, MCAPCO Regulation 1.5226 - "Case-By-Case MACT Procedures", and the following definitions apply:

(1) **"Affected source"** means the collection of equipment, activities, or both within a single contiguous area and under common control that is in a section 112(c) source category or subcategory for that the Administrator has failed to promulgate an emission standard by the section 112(j) deadline, and that is addressed by an applicable MACT emission limitation established pursuant to 40 CFR Part 63 Subpart B;

(2) **"Control technology"** means measures, processes, methods, systems, or techniques to limit the emission of hazardous air pollutants including measures that:
   (A) reduce the quantity, or eliminate emissions, of such pollutants through process changes, substitution of materials, or other modifications;
   (B) enclose systems or processes to eliminate emissions;
   (C) collect, capture, or treat such pollutants when released from a process, stack, storage, or fugitive emission point;
   (D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in 42 USC 7412(h); or
   (E) are a combination of Parts (A) through (D) of this definition.

(3) **"EPA"** means the United States Environmental Protection Agency or the Administrator of U.S. Environmental Protection Agency.
(4) **"Hazardous air pollutant"** means any pollutant listed under Section 112(b) of the federal Clean Air Act.
(5) **"MACT"** means maximum achievable control technology.
(6) **"Maximum achievable control technology"** means:
    (A) for existing sources,
        (i) a MACT standard that EPA has proposed or promulgated for a particular category of facility or source,
        (ii) the average emission limitation achieved by the best performing 12 percent of the existing facilities or sources for which EPA has emissions information if the particular category of source contains 30 or more sources, or
        (iii) the average emission limitation achieved by the best performing five facilities or sources for which EPA has emissions information if the particular category of source contains fewer than 30 sources, or
    (B) for new sources, the maximum degree of reduction in emissions that is deemed achievable but not less stringent than the emission control that is achieved in practice by the best controlled similar source.
(7) **"MACT floor"** means:
    (A) for existing sources:
        (i) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which EPA has emissions information) excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined in Section 171 of the federal Clean Air Act) applicable to the source category or subcategory for categories and subcategories with 30 or more sources, or
        (ii) the average emission limitation achieved by the best performing five sources (for which EPA has emissions or could reasonably obtain emissions information), in the category or subcategory, for categories or subcategories with fewer than 30 sources;
    (B) for new sources, the emission limitation achieved in practice by the best controlled similar source.
(8) **"New affected source"** means the collection of equipment, activities, or both, that constructed after the issuance of a section 112(j) permit for the source pursuant to 40 CFR 63.52, is subject to the applicable MACT emission limitation for new sources. Each permit shall define the term "new affected source," that will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:
    (A) Emission reduction impacts of controlling individual sources versus groups of sources;

(B) Cost effectiveness of controlling individual equipment;
(C) Flexibility to accommodate common control strategies;
(D) Cost/benefits of emissions averaging;
(E) Incentives for pollution prevention;
(F) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices); and
(G) Feasibility and cost of monitoring.

(9) **"New facility"** means a facility for which construction is commenced after the Section 112(j) deadline, or after proposal of a relevant standard under Section 112(d) or (h) of the federal Clean Air Act, whichever comes first.

(10) **"Research or laboratory activities"** means activities whose primary purpose is to conduct research and development into new processes and products; where such activities are operated under the supervision of technically trained personnel and are not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner; and where the source is not in a source category specifically addressing research or laboratory activities, that is listed pursuant to section 112(c)(7) of the Clean Air Act.

(11) **"Section 112(j) deadline"** means the date 18 months after the date for which a relevant standard is scheduled to be promulgated under 40 CFR Part 63, except that for all major sources listed in the source category schedule for which a relevant standard is scheduled to be promulgated by November 15, 1994, the section 112(j) deadline is November 15, 1996, and for all major sources listed in the source category schedule for which a relevant standard is scheduled to be promulgated by November 15, 1997, the section 112(j) deadline is December 15, 1999.

(12) **"Similar source"** means that equipment or collection of equipment that, by virtue of its structure, operability, type of emissions and volume and concentration of emissions, is substantially equivalent to the new affected source and employs control technology for control of emissions of hazardous air pollutants that is practical for use on the new affected source.

(c) Missed promulgation dates: 112(j). If EPA fails to promulgate a standard for a category of source under Section 112 of the federal Clean Air Act by the date established pursuant to Sections 112(e)(1) or (3) of the federal Clean Air Act, the owner or operator of any source in such category shall submit, within 18 months after such date, a permit application, in accordance with the procedures in MCAPCO Regulation 1.5526 - "112(j) Case-By-Case MACT Procedures", to the Director and to EPA to apply MACT to such sources. Sources subject to this Paragraph shall be in compliance with this Regulation within three years from the date that the permit is issued.

(d) New facilities. The owner or operator of any new facility that is a major source of hazardous air pollutants (HAP) that is subject to this Regulation shall apply MACT in accordance with the provisions of MCAPCO Regulation 2.1112 - "112(g) Case-By-Case Maximum Achievable Control Technology", 1.5528 - "112(g) Case-By-Case MACT Procedures", and 1.5526 - "112(j) Case-By-Case MACT Procedures" Subparagraph (e)(2).

(e) Case-by-case MACT determination. The Director shall determine MACT according to 40 CFR 63.55(a).

(f) Monitoring and recordkeeping. The owner or operator of a source subject to this Regulation shall install, operate, and maintain monitoring capable of detecting deviations from each applicable emission limitation or other standards with sufficient reliability and timeliness to determine continuous compliance over the applicable reporting period. Such monitoring data may be used as a basis for enforcing emissions limitations established under this Regulation.

History Note: Temporary Adoption Eff. March 8, 1994 for a period of 180 days or until the permanent rule is effective, whichever is sooner;
Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5), (10);
Eff. July 1, 1994;
Amended Eff. February 1, 2004; July 1, 1998; July 1, 1996.

2.1110 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

(a) With the exception of Paragraph (b) of this Regulation, sources subject to national emission standards for hazardous air pollutants promulgated in 40 CFR Part 61 shall comply with emission standards, monitoring and reporting requirements, maintenance requirements, notification and record keeping requirements, performance test requirements, test method and procedural provisions, and any other provisions, as required therein, rather than with any otherwise-applicable Regulation in MCAPCO Section 1.5500 - "Title V Procedures" that would be in conflict therewith.

(b) Along with the notice appearing in the North Carolina Register for a public hearing to amend this Regulation to exclude a standard from this Regulation, the Director of the North Carolina Department of Environment and Natural Resources - Division of Air Quality shall state whether or not the national emission standards for hazardous air pollutants promulgated under 40 CFR Part 61, or part thereof, shall be enforced. If the North Carolina Environmental Management Commission does not adopt the amendment to this Regulation to exclude or amend the standard within 12 months after the close of the comment period on the proposed amendment, the Director of Mecklenburg County Air Quality shall begin enforcing that standard when 12 months has elapsed after the end of the comment period on the proposed amendment.

(c) New sources of volatile organic compounds that are located in an area designated in 40 CFR 81.334 as nonattainment for ozone or an area identified in accordance with MCAPCO Regulation 2.0902 - "Applicability" as in violation of the ambient air quality standard for ozone shall comply with the requirements of 40 CFR Part 61 that are not excluded by this Regulation, as well as with any applicable requirements in MCAPCO Section 2.0900 - "Volatile Organic Compounds".

(d) All requests, reports, applications, submittals, and other communications to the administrator required under Paragraph (a) of this Regulation shall be submitted to the Director of Mecklenburg County Air Quality rather than to the Environmental Protection Agency.

(e) In the application of this Regulation, definitions contained in 40 CFR Part 61 shall apply rather than those of this Ordinance.

(f) MCAPCO Regulation 1.5211 - "Applicability" Paragraphs (f) and (g) are not applicable to any source to which this Regulation applies. The owner or operator of the source shall apply for and receive a permit as required in MCAPCO Sections 1.5200 - "Air Quality Permits" or "Title V Procedures".

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107 (a)(5); 150B-21.6;*
Eff. July 1, 1996;
Amended Eff. June 1, 2008; July 1, 1997.

2.1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

(a) With the exception of Paragraph (b) or (c) of this Regulation, sources subject to national emission standards for hazardous air pollutants for source categories promulgated in 40 CFR Part 63 shall comply with emission standards, monitoring and reporting requirements, maintenance requirements, notification and record keeping requirements, performance test requirements, test method and procedural provisions, and any other provisions, as required therein, rather than with any otherwise-applicable Regulation in MCAPCO Section 1.5500 - "Title V Procedures" which would be in conflict therewith.

(b) The following are not included under this Regulation:
- (1) approval of state programs and delegation of federal authorities (40 CFR 63.90 to 63.96, Subpart E); and
- (2) requirements for control technology determined for major sources in accordance with Clean Air Act Sections 112(g) and 112(j) (40 CFR 63.50 to 63.57, Subpart B).

(c) Along with the notice appearing in the North Carolina Register for a public hearing to amend this Regulation to exclude a standard from this Regulation, the Director of the Division of Air Quality - Department of Environment and Natural Resources shall state whether or not the national emission standard for hazardous air pollutants for source categories promulgated under 40 CFR Part 63, or part thereof, shall be enforced. If the North Carolina Environmental Management Commission does not adopt the amendment to this Regulation to exclude or amend the standard within 12 months after the close of the comment period on the proposed amendment, the Director of Mecklenburg County Air Quality shall begin enforcing that standard when 12 months has elapsed after the end of the comment period on the proposed amendment.

(d) New sources of volatile organic compounds that are located in an area designated in 40 CFR 81.334 as nonattainment for ozone or an area identified in accordance with the MCAPCO Regulation 2.0902 - "Applicability" as being in violation of the ambient air quality standard for ozone shall comply with the requirements of 40 CFR Part 63 that are not excluded by this Regulation as well as with any applicable requirements in MCAPCO Section 2.0900 - "Volatile Organic Compounds".

(e) All requests, reports, applications, submittals, and other communications to the administrator required under Paragraph (a) of this Regulation shall be submitted to the Director of Mecklenburg County Air Quality rather than to the Environmental Protection Agency.

(f) In the application of this Regulation, definitions contained in 40 CFR Part 63 shall apply rather than those of this Ordinance when conflict exists.

(g) MCAPCO Regulation 1.5211 - "Applicability" Paragraph (f) and (g) are not applicable to any source to which this Regulation applies if the source is required to be permitted under MCAPCO Section 1.5500 - "Title V Procedures". The owner or operator of the source shall apply for and receive a permit as required in MCAPCO Sections 1.5200 - "Air Quality Permits" or 1.5500 - "Title V Procedures". Sources that have heretofore been exempted from needing a permit and become subject to requirements promulgated under 40 CFR 63 shall apply for a permit in accordance with MCAPCO Regulation 1.5218 - "Compliance Schedule for Previously Exempted Activities".

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107 (a)(5); 150B-21.6;*
Eff. July 1, 1996;
Amended Eff. June 1, 2008; July 1, 1997.

2.1112 112(g) CASE BY CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

(a) Applicability. This Regulation applies to the construction or reconstruction of major sources of hazardous air pollutants unless:

(1) the major source has been specifically regulated or exempted from regulation under:
   (A) MCAPCO Regulations 2.1109 - "112(j) Case by Case Maximum Achievable Control Technology" or 2.1111 - "Maximum Achievable Control Technology" or
   (B) a standard issued pursuant to Section 112(d), 112(h), or 112(j) of the federal Clean Air Act and incorporated in another Subpart of 40 CFR Part 63,
   or
(2) the owner or operator of such major source has received all necessary air quality permits for such construction or reconstruction project before July 1, 1998.

(b) Exclusions. The requirements of this Regulation shall not apply to:

(1) electric utility steam generating units unless and until such time as these units are added to the source category list pursuant to Section 112(c)(5) of the federal Clean Air Act.

(2) stationary sources that are within a source category that has been deleted from the source category list pursuant to Section 112(c)(9) of the federal Clean Air Act.

(3) research and development activities.

(c) Definitions. For the purposes of this Regulation, the following definitions apply:

(1) **"Affected source"** means the stationary source or group of stationary sources that, when fabricated (on site), erected, or installed meets the definition of "construct a major source" or the definition of "reconstruct a major source" contained in this Paragraph.

(2) **"Affected States"** means all States or local air pollution agencies whose areas of jurisdiction are:

(A) contiguous to North Carolina and located less than D=Q/12.5 from the facility, where:

(i) Q = emissions of the pollutant emitted at the highest permitted rate in tons per year, and

(ii) D = distance from the facility to the contiguous state or local air pollution control agency in miles; or

(B) within 50 miles of the permitted facility.

(3) **"Available information"** means, for purposes of identifying control technology options for the affected source, information contained in the following information sources as of the date of approval of the MACT determination by the Department:

(A) a relevant proposed regulation, including all supporting information;

(B) background information documents for a draft or proposed Regulation;

(C) data and information available from the Control Technology Center developed pursuant to Section 113 of the federal Clean Air Act;

(D) data and information contained in the Aerometric Informational Retrieval System including information in the MACT data base;

(E) any additional information that can be expeditiously provided by the Department and EPA;
and

(F) for the purpose of determinations by the Department, any additional information provided by the applicant or others, and any additional information considered available by the Department.

(4) **"Construct a major source"** means:

(A) To fabricate, erect, or install at any greenfield site a stationary source or group of stationary sources which is located within a contiguous area and under common control and which emits or has the potential to emit 10 tons per year of any HAPs or 25 tons per year of any combination of HAP,
or

(B) To fabricate, erect, or install at any developed site a new process or production unit which in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, unless the process or production unit satisfies Subparagraphs (i) through (vi) of this Paragraph:

(i) All HAP emitted by the process or production unit that would otherwise be controlled under the requirements of this Regulation will be controlled by emission control equipment which was previously installed at the same site as the process or production unit;

(ii) The Department:

(I) has determined within a period of five years prior to the fabrication, erection, or installation of the process or production unit that the existing emission control equipment represented best available control technology (BACT) under MCAPCO Regulation 2.0530 - "Prevention of Significant Deterioration" or lowest achievable emission rate (LAER) under MCAPCO Regulation 2.0531 - "Sources in Non-Attainment Areas" for the category of pollutants which includes those HAPs to be emitted by the process or production unit; or

(II) determines that the control of HAP emissions provided by the existing equipment will be equivalent to that level of control currently achieved by other well-controlled similar sources (i.e., equivalent to the level of control that would be provided by a current BACT, LAER, or MACT determination under MCAPCO Regulation 2.1109 - "112(j) Case By Case Maximum Achievable Control Technology");

(iii) The Department determines that the percent control efficiency for emissions of HAP from all sources to be controlled by the existing control equipment will be equivalent to the percent control efficiency provided by the control equipment prior to the inclusion of the new process or production unit;

(iv) The Department has provided notice and an opportunity for public comment concerning its determination that criteria in Parts (i), (ii), and (iii) of this Subparagraph apply and concerning the continued adequacy of any prior LAER, BACT, or MACT determination under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology";

(v) If any commenter has asserted that a prior LAER, BACT, or MACT determination under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology" is no longer adequate, the Department has determined that the /level of control required by that prior determination remains adequate; and

(vi) Any emission limitations, work practice requirements, or other terms and conditions upon which the above determinations by the Department are predicated will be construed by the Department as applicable

requirements under Section 504(a) of the federal Clean Air Act and either have been incorporated into an existing permit issued under MCAPCO Section 1.5500 - "Title V Procedures" for the affected facility or will be incorporated into such permit upon issuance.

(5) **"Control technology"** means measures, processes, methods, systems, or techniques to limit the emission of hazardous air pollutants including measures that:
   (A) reduce the quantity of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications;
   (B) enclose systems or processes to eliminate emissions;
   (C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point;
   (D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in 42 U.S.C. 7412(h); or
   (E) are a combination of Parts (A) through (D) of this definition.

(6) **"Electric utility steam generating unit"** means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that co-generates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electric output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.

(7) **"Greenfield site"** means a contiguous area under common control that is an undeveloped site.

(8) **"HAP"** means hazardous air pollutants.

(9) **"Hazardous air pollutant"** means any pollutant listed under Section 112 (b) of the federal Clean Air Act.

(10) **"List of source categories"** means the source category list required by Section 112(c) of the federal Clean Air Act.

(11) **"MACT"** means maximum achievable control technology.

(12) **"Maximum achievable control technology emission limitation for new sources"** means the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of reduction in emissions that the permitting authority, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed or reconstructed major source.

(13) **"Process or production unit"** means any collection of structures or equipment, that processes, assembles, applies, or otherwise uses material inputs to produce or store an intermediate or final product. A single facility may contain more than one process or production unit.

(14) **"Reconstruct a major source"** means the replacement of components at an existing process or production unit that in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, whenever:

(A) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable process or production unit; and

(B) It is technically and economically feasible for the reconstructed major source to meet the applicable maximum achievable control technology emission limitation for new sources established under this Subpart.

(15) **"Research and development activities"** means activities conducted at a research or laboratory facility whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for sale or exchange for commercial profit, except in a *de minimis* manner.

(16) **"Similar source"** means a stationary source or process that has comparable emissions and is structurally similar in design and capacity to a constructed or reconstructed major source such that the source could be controlled using the same control technology.

(d) Principles of MACT determinations. The following general principles shall be used to make a case-by-case MACT determination concerning construction or reconstruction of a major source under this Regulation:

(1) The MACT emission limitation or MACT requirements recommended by the applicant and approved by the Department shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Department.

(2) Based upon available information, the MACT emission limitation and control technology (including any requirements under Subparagraph (3) of this Paragraph) recommended by the applicant and approved by the Department shall achieve the maximum degree of reduction in emissions of HAP that can be achieved by utilizing those control technologies that can be identified from the available information, taking into consideration the costs of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements associated with the emission reduction.

(3) The owner or operator may recommend a specific design, equipment, work practice, or operational standard, or a combination thereof, and the Director may approve such a standard if the Department specifically determines that it is not feasible to prescribe or enforce an emission limitation under the criteria set forth in Section 112(h)(2) of the federal Clean Air Act.

(4) If the EPA has either proposed a relevant emission standard pursuant to Section 112(d) or 112(h) of the federal Clean Air Act or adopted a presumptive MACT determination for the source category that includes the constructed or reconstructed major source, then the MACT requirements applied to the constructed or reconstructed major source shall have considered those MACT emission limitations and requirements of the proposed standard or presumptive MACT determination.

(e) Effective date of MACT determination. The effective date of a MACT determination shall be the date of issuance of a permit under procedures of MCAPCO Sections 1.5200 - "Air Quality Permits" or 1.5500 - "Title V Procedures" incorporating a MACT determination.

(f) Compliance date. On and after the date of start-up, a constructed or reconstructed major source that is subject to the requirements of this Regulation shall be in compliance with all applicable requirements specified in the MACT determination.

(g) Compliance with MACT determinations. The owner or operator of a constructed or reconstructed major source that:

(1) is subject to a MACT determination shall comply with all requirements set forth in the permit issued under MCAPCO Sections 1.5200 - "Air Quality Permits" or 1.5500 - "Title V Procedures", including any MACT emission limitation or MACT work practice standard, and any notification, operation and maintenance, performance testing, monitoring, reporting, and record keeping requirements; or

(2) has obtained a MACT determination shall be deemed to be in compliance with Section 112(g)(2)(B) of the federal Clean Air Act only to the extent that the constructed or reconstructed major source is in compliance with all requirements set forth in the permit issued under MCAPCO Sections 1.5200 - "Air Quality Permits" or 1.5500 - "Title V Procedures". Any violation of such requirements by the owner or operator shall be deemed by the Department and by EPA to be a violation of the prohibition on construction or reconstruction in Section 112(g)(2)(B) of the federal Clean Air Act for whatever period the owner or operator is determined to be in violation of such requirements, and shall subject the owner or operator to appropriate enforcement action under the General Statutes and the federal Clean Air Act.

(h) Requirements for constructed or reconstructed major sources subject to a subsequently promulgated MACT standard or MACT requirement. If EPA promulgates an emission standard under Section 112(d) or 112(h) of the federal Clean Air Act or the Department issues a determination under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology" that is applicable to a stationary source or group of sources that would be deemed to be a constructed or reconstructed major source under this Regulation:

(1) before the date that the owner or operator has obtained a final and legally effective MACT determination under MCAPCO Sections 1.5200 - "Air Quality Permits" or 1.5500 - "Title V Procedures", the owner or operator of the source(s) shall comply with the promulgated standard or determination rather than any MACT determination under this Regulation by the compliance date in the promulgated standard; or

(2) after the source has been subject to a prior case-by-case MACT under this Regulation, and the owner or operator obtained a final and legally effective case-by-case MACT determination prior to the promulgation date of such emission standard, the Department shall (if the initial permit has not yet been issued under MCAPCO Section 1.5500 - "Title V Procedures") issue an initial permit that incorporates the emission standard or determination, or shall (if the initial permit has been issued under

MCAPCO Section 1.5500 - "Title V Procedures") revise the permit according to the reopening procedures in MCAPCO Regulation 1.5517 - "Reopening For Cause", whichever is relevant, to incorporate the emission standard or determination.

(i) Compliance with subsequent 112(d), 112(h),or 112(j) standards. EPA may include in the emission standard established under Section 112(d) or 112(h) of the federal Clean Air Act a specific compliance date for those sources that have obtained a final and legally effective MACT determination under this Regulation and that have submitted the information required by 40 CFR 63.43 to EPA before the close of the public comment period for the standard established under section 112(d) of the federal Clean Air Act. Such date shall assure that the owner or operator shall comply with the promulgated standard as expeditiously as practicable, but not longer than eight years after such standard is promulgated. In that event, the Department shall incorporate the applicable compliance date in the permit issued under MCAPCO Section 1.5500 - "Title V Procedures". If no compliance date has been established in the promulgated 112(d) or 112(h) standard or determination under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology", for those sources that have obtained a final and legally effective MACT determination under this Regulation, then the Director shall establish a compliance date in the permit that assures that the owner or operator shall comply with the promulgated standard or determination as expeditiously as practicable, but not longer than eight years after such standard is promulgated or a determination is made under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology".

(j) Revision of permit to incorporate less stringent control. Notwithstanding the requirements of Paragraph (h) of this Regulation, if the Administrator of EPA promulgates an emission standard under Section 112(d) or Section 112(h) of the federal Clean Air Act or the Department issues a determination under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology" that is applicable to a stationary source or group of sources that was deemed to be a constructed or reconstructed major source under this Regulation and that is the subject of a prior case-by-case MACT determination pursuant to 40 CFR 63.43, and the level of control required by the emission standard issued under Section 112(d) or 112(h) or the determination issued under MCAPCO Regulation 2.1109 - "112(j) Maximum Achievable Control Technology" is less stringent than the level of control required by any emission limitation or standard in the prior MACT determination, the Department is not required to incorporate any less stringent terms of the promulgated standard in the permit issued under MCAPCO Section 1.5500 - "Title V Procedures" applicable to such source(s) and may consider any more stringent provisions of the prior MACT determination to be applicable legal requirements when issuing or revising such an operating permit.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5), (10); Eff. July 1, 1998.*